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USSR Report

TRANSPORTATION

No. 27



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AIR

AIR SERVICE FOR TYUMEN' DETAILED

Moscow PRAVDA in Russian 25 Sep 80 p 2

[Article by correspondent V. Lisin: "The Wings of Tyumen'"]

[Excerpts] The decorated collective of the Tyumen' Administration of Civil Aviation has met the 10th Five-Year Plan target for serving the country's main fuel and energy-producing base. They will reach the limit a month earlier than stipulated in pledges for the period. Aviators have carried about 2 million tons of national economic cargo. Assuming pregress duties, Tyumen' aviators have set the objective of delivering about 300,000 tons of cargo above the five-year plan.

We have to go to Nadym, toward the Arctic Circle, where Tyumen's extensive gas deposits originated. Now there is a modern city there. And we are flying in a modern aircraft—the powerful Il-76. A "Kamaz" [vehicle produced by the Kama Motor Vehicle Plant] with a trailer and massive equipment is in its immense hold. We are carrying nearly 40 tons of cargo for organizations of the Glavtyumentruboprovodstroy [Main Administration of Gas Pipelines Under Construction in the Tyumen' Region].

Pilot First Class R. Nasyrov is flying the aircraft.

"This is the fourth year we have been working here in these heavy-duty 'flying trucks,'" the pilot says. "There are several such aircraft at the Rozhchino Airport now. It is impossible to visualize how they would do without such large-capacity aircraft in Tyumen'."

Many valuable raw material deposits have been discovered and thousands of kilometers of pipeline have been laid with the pilots' assistance. Millions of tons of priority cargo have been delivered to construction projects that are not easily accessible.

Tyumen' aviators have put grouped basing of helicopters and traffic control of operations into practice, which has contributed to more productive use of equipment. So-called complex shifts have been set up at airports. These and other innovations have been introduced rapidly in all the administration's collectives: the work of soviets in disseminating advanced labor methods and the participation

of creative brigades are having an effect. At the Surgut Aviation Enterprise, equipment for consistent heating of a repair facility has been modernized with their assistance and centralized preheating of air for the engines and provision of the power supply and fueling of An-2 aircraft have been organized. As a result, working conditions will be improved and expensive equipment will last longer.

Thanks to the aviators' assistance, the shift-field work method vakhtovo-ekspeditsionnyy metod raboty has been widely adopted in the oblast. In the timber industry, for example, this has made it possible to procure timber throughout the year. Oil, gas and construction workers and geologists are now making use of the new method.

The new stage in development of the Western Siberia territorial production complex and expansion of the area in which prospecting and extraction of natural resources are undertaken require still greater efficiency by aviators. There are many obstacles at present. One of them is the ground services' failure to keep pace. Here is an unfortunate example in construction of the airport in Novyy Urengoy, which has been charged with support for the vital activity of the Urengoy condensed gas deposits, the largest in the world. The customer here was the "Tyumengazprom" Tyumen' All-Union Gas Production Association and the general contractor was the "Tyumenderstroy" trust. They built a runway to accommodate large modern aircraft and a small parking ramp. But they did not think about the operations service: there was nowhere to put it. Under conditions in the North this means that the airport is often closed. After all, the gas workers of Urengoy have to increase the volume of shipments every day. In order to correct the situation, the efforts of all sectors concerned must be united, and the Ministry of Civil Aviation and the USSR Gosplan have been called upon to give their weighty opinion.

The matter of building a large repair plant in the oblast for Mi-8 helicopters and expanding the Novosibirsk plant for repairing Mi-6 and Mi-10K helicopters cannot be put off. Aircraft now are being repaired at many enterprises in the country. Last year alone, because of above-norm downtimes of helicopters in repair, the national economy received 40,000 tons of cargo less.

Time and again I have had occasion to witness aircraft standing idle for long hours during loading and unloading at the Nizhnevartovsk, Nadym and Novyy Urengoy airports. All the pilots of the "flying trucks" with whom I had occasion to talk spoke unkindly not only about the northern weather, but about those who have not attended to the mechanization of labor-consuming operations as well.

Any sector of the national economy which is served by pilots forms an opinion on aviation's work by the amount of cargo carried. But the aviators themselves? They have another criterion--the number of hours in the air. Clearly, this is not conducive to efficient use of equipment.

There is another side of the coin, too. At many places in the northern part of the oblast I have had occasion to observe time and again that pilots were carrying air instead of cargo. Why?

"This is because construction workers, geologists and gas workers have no responsibility to their ministries for the use of helicopters," said V. Gorinov, first deputy chief of the Tyumen' Administration of Civil Aviation. And he gave the following example. Heavy helicopters taking part in construction of the Surgut-Poletak oil pipeline were flying 100 to 150 kilometers to base airports for refueling, although construction of auxiliary refueling points had been planned. But the USSR Ministry of Construction of Petroleum and Gas Industry Enterprises did not consider the aviators' appeal that it had an effect on the rate of construction, among other things.

Interesting experience in reducing the number of empty flights and increasing aircraft loads has been accumulated in Yamalo-Nenetskiy National Okrug. At the initiative of the okrug party committee, coordination groups were set up here. They include commanders of aviation enterprises and customer representatives. Similar traffic services operate for geologists and oil workers. This makes it possible to utilize aircraft with maximum loads.

Workers of the oil and gas industry, power engineers and construction workers are looking to designers for aircraft capable of coping with multipurpose national economic tasks. Delivery of large-sized equipment and machines by aircraft to places that are not easily accessible now is being carried out by disassembling them beforehand. But if this is not possible, they are transported over temporary roads during the winter.

8936

CSO: 1829

AIR

BETTER UTILIZATION OF L-410 URGED: SPARE PARTS SHORTAGE NOTED

Moscow VOZDUSHNYY TRANSPORT in Russian 20 Sep 80 p 2

[Article by A. Smirnov, L-410 aircraft commander, titled: "Aircraft Are Endowed With Great Potential. Why Not Fully Use It?"]

[Text] I am writing to you on behalf of the pilots in the L-410 section of the Kostromskoye Aircraft Concern. We are very disturbed by the situation regarding flight regularity for the L-410. The point is that the potential of these aircraft is far from being fully used, and it is the passengers who suffer from it the most.

Having spent the whole day yesterday waiting to depart for Moscow, they came again today. "Why aren't we flying today either?" they ask us. Why not, in fact.

The L-410 unquestionably represents a step forward in the development of regional aviation. The designers have endowed the aircraft with great potential. It is permitted to fly approaches in weather down to landing system minima (ceiling-60 meters, prevailing visibility--800 meters). The L-410 can fly in icing conditions, which is stated in the aircraft's flight manual.

There are many experienced crews in our section, but no aircraft commander is cleared to fly in weather down to landing system minima. Not even the chief instructor pilot in the Civil Aviation Directorate for the Central Region has permission to do so. Flights in icing conditions are prohibited by order of the Ministry. This order was published in 1977, prior to the time when the then-new aircraft became operational. But in the three years of its operations our crews have unintentionally encountered severe icing conditions many times and have become convinced that the aircraft flies normally there. We raised the issue of official clearance with the Directorate and Ministry, but a response came reaffirming the prohibition. And we must abide by the requirements of an order that is already way out of date.

The L-410 is permitted to fly at altitude, but because of thunderstorms along our route of flight in the summer and the lack of a weather radar onboard the aircraft we often have to stay at low altitude, which has side effects that the passengers do not find very pleasant: turbulence and high cabin temperature. Often the Moscow Air Traffic Control Zone is closed to aircraft not equipped with radar.

And recently the possibilities open to the crews were sharply reduced in line with the establishment of low level flight minima for the L-410 (ceiling--300 meters, prevailing visibility--5000 meters). If the control zone is closed, it is practically impossible to fly the routes at altitude. What is more, low level flights are uneconomical, since they entail a higher consumption of aviation fuel.

The high degree of unserviceability of our aircraft engine pool constantly disrupts our operations too--we lack spare parts.

We believe that flight regularity for the L-410 would be significantly improved if the measures we propose are adopted: equip the aircraft with airborne weather radar by the spring-summer navigation period next year and remove the prohibition on flights in icing conditions. It would also be desirable that the most experienced aircraft commanders undergo refresher training this autumn and be cleared to fly in weather down to landing system minima. In our view, it is advisable that VFR (visual flight rules) minima of 150 meters--3000 meters be established (in accordance with Flight Manual 78, Table 4.5) for aircraft maintaining speeds of 300 kilometers per hour and below, that a training program be developed for these minima, and that the measures needed to improve the serviceability of the aircraft engine pool be taken.

9610

CSO: 1829

AIR

YAK-42 PASSENGER SERVICE FROM BYKOVO TO BEGIN THIS YEAR

Moscow IZVESTIYA in Russian 10 Sep 80 p 6

[Article by V. Belikov]

[Text] The airliner which landed at Domodedovo Airport in the capital 9 September still is not carrying passengers in its 120-seat cabin, although it is making flights regularly on many routes in the country. Several Yak-42 series jet aircraft now are undergoing operational tests in Aeroflot—the final stage in preparation for regular flights.

One of these aircraft came to Domodedovo so that managers of foreign trade organizations and airlines of socialist countries could thoroughly familiarize themselves with it. The inspection and technical consultations were organized by the All-Union Association Aviaeksport with the participation of specialists from the aviation industry and the experimental design bureau headed by A. Yakovlev.

V. Studenikin, general director of Aviaeksport, noted the great interest shown in the Yak-42 at international air shows in Paris, where this aircraft, which was designed for the transport of passengers and cargo over short-range mainline flights and local routes, has already been demonstrated. In the process of testing, the Yak-42 has operated successfully in Yakutsk and Samarkand and has been to Murmansk and Krasnodar and many other cities in the country.

In building the airliner, much attention was devoted to ensuring flight safety, S. Yakovlev, deputy chief designer, stressed. The three turbofan engines are economical and dependable, and special suppressors reduce turbine noise. Series production of the Yak-42 has been under way at aircraft plants in Smolensk and Saratov.

By the end of this year, the new aircraft will begin carrying passengers from Moscow's Bykovo Airport.

8936
CSO: 1829

AIR

INEFFICIENCY AT VNUKOVO, DOMODEDOVO SCORED

Moscow VOZDUSHNYY TRANSPORT in Russian 4 Oct 80 p 1

[Article by Correspondent O. Kalintsev: "It Is Takeoff Time, But the Aircraft Is Still Tied Down"]

[Text] A recent meeting of the collegium of the Ministry of Civil Aviation noted that development of a material and technical base for cargo services and the mail and cargo shipment situation at Domodedovo and Vnukovo Airports do not meet modern needs.

A concerned discussion on this as well as other shortcomings in the work of aviation enterprises was held by the collective of the flight subunit of the Vnukovo Production Association which serves on Tu-154 aircraft flying northern routes, to Noril'sk, Pevek and Anadyr'.

The pilots had accumulated many complaints about ground services—complaints about violation of the operations schedule, which threaten to disrupt flight regularity.

How should the work be organized? A flight to Anadyr', for example, takes 8 hours of flight time, plus an hour of preflight preparation, plus 2 hours for refueling in Noril'sk, plus an hour after the flight—12 hours, a full workday. And what is it really like at Vnukovo Airport? The crew has been issued its flight assignment, takeoff authorization has been signed, the crew are at their places in the aircraft, and...they sit there for 2, 3 and even 4 hours. Why? The aircraft is not ready. Just why was the flight assignment given prematurely? As a result, the crew's workday is increased up to 14-16 hours, and it will have to fly by violating requirements of the medical hygiene service.

It also happens this way. The crew is in place and the passengers are in the cabin, but they are just beginning to bring up the baggage. Or another situation may take place. The aircraft is ready for takeoff and it suddenly turns out that baggage and cargo meant for another flight has been loaded on it. And again delay and disruption of the scheduled.

Aircraft on northern routes are systematically underloaded by 500 to 700 kilograms. Perhaps there is no cargo for the northern ports? No, there is; it is lying in warehouses. It is a pity to "carry air" such a long distance because of someone's carelessness.

Pilots have demanded that a showcase be set up at the airport with "There is a delay—who is at fault?" So that everyone knows who is at fault for a schedule that has been disrupted, and what measures have been taken to ensure that this is not repeated.

Living conditions also leave much to be desired. There are not enough accommodations in the dispensary of the Pevek Airport—a crew must wait several hours until the crew which arrived earlier completes its rest. At the auxiliary port of Igarka, they can rest only in an unheated club, where cots must be put on the stage. Once in Igarka, a crew waiting for weather spent 16 hours in seats in the aircraft, and the next morning the doctor was fully justified in not permitting the crew to fly.

At Vnukovo Airport, transportation of crews by motor vehicle from the dispensary to the air terminal and from the terminal to the parking ramp, which is very far away, has been poorly organized, particularly at night. They have to walk several kilometers. And this before the tension of a flight of many hours.

Both the pilots and a substantial number of passengers reach Vnukovo from the city by bus No 511 from the Yugo-Zapadnaya metro station. A long line is always stretched out at the last stop. They may remain standing for 20 to 40 minutes. As a result, aviators arrive at their work place with rumpled uniforms and dirty shoes, and even their frame of mind is far from what is required.

Vnukovo workers have asked that the No 511 route be divided in two and that part of the vehicles start from the Belyayevo metro station, where many of the airport workers live. But this simple solution has not been approved to date.

8936
CSO: 1829

AIR

BRIEFS

FLIGHT ROUTES--Krasnodarsk-Cheleken, Turkmeneskaya SSR--These coastal cities have been joined by a reliable air bridge over which the aircraft of the Krasnovodskoye Aviation Concerns fly. For the first time Cheleken, the center of the chemical industry in western Turkmenia, is linked by direct air route with the capital of fraternal Azerbaijan as well. "Positive changes in our flight routes," relates A. Mel'nik, the director of the Krasnovodskoye Aviation Concern, "have become possible thanks to putting the Cheleken aviation complex into operation ahead of schedule." Passenger service will improve significantly now. Twice as many people will be able to make use of aviation services now as in past years. For example, many Azerbaijani specialists in offshore drilling work in Cheleken. A trip by air to Baku now takes no more than an hour. Krasnovodsk can be reached in 30 minutes, although you would have to spend 5 whole hours to travel there by bus. Next year just such a complex will begin operating at the settlement of Bekdash, where sodium sulfate is mined. [Text] [Moscow IZVESTIYA in Russian 21 Sep 80 p 6] 9610

YAK-42 IN CENTRAL ASIA--Tashkent--For the first time a Yak-42 has appeared at Tashkent Airport. The crew, headed by O. Smirnov and specialists from the State Scientific Research Institute for Civil Aviation and other services in our branches of industry, are checking the flight characteristics of this new aircraft in the hot climate of Central Asia. The aircraft is being tested on the route Moscow--Tashkent--Ashkhabad--Tashkent--Moscow. As reported by R. Lutfitdinov, the commander of the Tashkent Aviation Concern and an Honored Navigator of the USSR, the airport is ready to service the Yak-42. All the ground support equipment and services are prepared to receive the new aircraft. [Text] [Moscow VOZDUSHNYY TRANSPORT in Russian 9 Sep 80 p 2] 9610

AEROFLOT'S WINTER WORRIES--Kiev(RATAU)--The new aircraft flight schedule, which goes into effect on 1 October, envisions routes which will connect the capital of the Soviet Ukraine with practically all the primary industrial, scientific and cultural centers in our country. This was reported by N. G. Kravets, director of the Ukrainian Central Agency for Air Communications, at a press conference devoted to Aeroflot's transition to its winter schedule. For example, 12 flights will be conducted daily between Kiev and Moscow, and you can fly to Leningrad on one of 4 Tu-154 flights. There will be more than 120 flights daily to cities in the Ukraine. It is planned to sell tickets at reduced fares to many categories of passengers. [Text] [Kiev PRAVDA UKRAINY in Russian 17 Sep 80 p 3] 9610

HELICOPTER TESTING—Ukhta, Komi ASSR, 19 Sep—The heavy Mi-10K helicopter is flying over Ukhta with a multiton suspension member under the fuselage. The rotary-wing aircraft has been equipped with control and recording apparatus. Specialists of the State Scientific Research Institute for the Operation and Maintenance of Aviation Equipment in Civil Aviation are conducting flight durability and operating life tests of the rotary-wing giant here. Results obtained will make it possible to determine the maximum period of time that it can work in the air. [Text] [Moscow PRAVDA in Russian 20 Sep 80 p 6] 8936

YEREVAN AIR TERMINAL—The Zapadnyy air terminal complex is being built in Yerevan, the capital of Armenia. More than 2,000 passengers an hour will be accommodated in its seven microterminals. The first stage of the complex will be operational by the end of this year. [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 13 Sep 80 p 4] 8936

CSO: 1829

MOTOR VEHICLE

PRODUCTION OF NEW HEAVY TRUCK MODELS BEGINS AT KAMA PLANT

Moscow TRUD in Russian 23 Sep 80 p 1

[Article by Ye. Ukhov, Naberezhnyye Chelny: "'KamAZ' Heavy Trucks"]

[Text] Yesterday, workers on the main assembly line at the Kama Automotive Plant began assembling the first industrial lot of KamAZ-54112 truck tractors. This fifth modification of the heavy truck is intended for use with a 20-ton trailer.

...Without its trailer, the new KamAZ tractor is unimpressive. It is not at all like the largest heavy truck. But the load capacity of this newcomer is six tons more than that of the series-produced KamAZ-5410. In this regard, the weight of the tractor itself is a quintal less. A special trailer a whole meter longer than the previous model has been developed for the newcomer at the Krasnoyarsk plant.

Incidentally, the new vehicle has one other feature which distinguishes it from its predecessors: The usual "rucksack" behind the cab is absent -- the spare wheel and tool box are located along the frame, giving the vehicle a more streamlined silhouette. The space between the fifth wheel and the cab enables us to use larger trailers.

The KamAZ-54112's birthplace is the plant's second assembly line conveyor. About a year went into preparing the new production facility: we needed to change the technology, manufacture fittings and train people.

KamAZ designers have created five modifications in less than five years. In addition to tractors with greater load capacities, other innovations coming off the assembly line include the KamAZ-53212, a 10-ton with an attached platform, and a multi-purpose chassis, the KamAZ-53213, on which various accessories can be installed -- cranes, winches, tanks, cement pumps.

This newcomer is being mastered at the KamAZ at a busy, strained time, as the collective of plant workers and builders has taken on an obligation to put the second line into operation by the 26th Party Congress. In order to cope with this task, they are faced with utilizing an additional 22 million rubles in capital investments.

At the chief designer's administration, I was shown a register of vehicles recommended for production in the 11th Five-Year Plan. Among them are a seven-ton dump truck, which can be unloaded from three sides, for rural areas, the fully-powered

KamAZ-4310, special-climate modifications for use in the tropics and beyond the Arctic Circle, multipurpose chassis for municipal-services, construction and agricultural work.

"We have developed enough new models so that one will be put on-stream each year," says chief vehicle designer R. Azamatov. "Why the abundance of modifications? The fact is that the range of use of KamAZ vehicles is expanding year by year, and in certain instances their effectiveness can be improved only by developing entirely new and original vehicles. Each new model not only improves the operating qualities of the KamAZ's, but in a sense 'pulls up' the series-produced models to its level. Thus, for example, before we began assembling the KamAZ-54112, we redesigned the 14-ton which has been in production since 1976. The impact turned out to be considerable. For example, the new wheel-holder placement saved up to 160 kg of metal. We succeeded in achieving a high degree of subassembly and parts standardization in these vehicles, which significantly speeds up moving the newcomer from blueprint to assembly line and which creates a number of vehicle operation and servicing advantages and a number of advantages in providing spare parts.

The KamAZ is rightly called a child of the 10th Five-Year Plan. Delegates to and guests of the 25th CPSU Congress saw its first models in Red Square. Four and a half years have passed since that time. Vehicles with the KamAZ brand have a firmly entrenched position among trucks and have become the dictators of fashion in domestic motor vehicle building. Four years of experience have shown that the ton-kilometer output per KamAZ vehicle is twice as high as for the MAZ or ZIL-130, and it provides 13-15 percent more profit to the automotive industry. The changeover of a number of automotive plants to KamAZ diesel motors has permitted a 30-percent reduction in expensive gasoline consumption.

The world's automotive leaders have also recognized the merits of the KamAZ. It has become a habitue of international salons and trade fairs. In France recently, it was awarded certificates of irreproachable vehicle conformity to international standards.

The creative search continues in KamAZ design bureaus. In an experimental shop, I saw a vehicle only remotely reminiscent of the KamAZ as we are accustomed to seeing it. A long semitrailer and an aerodynamic torpedo-shaped cab. It was explained to me that this is a promising model for hauling tandem rigs. It was designed with consideration of international environmental protection requirements. Together with other new developments, it is now undergoing plant tests.

11052
CSO: 1829

MOTOR VEHICLE

BRIEFS

"VOLGA" CARBURETOR TESTS--Leningrad (TASS)--The detector in the road inspectorate vehicle recorded the speed of the approaching vehicle as 150 km/hr, but the GAI [state automobile inspectorate] inspector did not stop the speeder or take off after him. An exception was made for this Volga car marked "Tests" on suburban roads especially set aside for this purpose. In it, specialists from the Leningrad Carburetor-Fittings Plant imeni V. V. Kuybyshev were testing a fuel system, specifically a carburetor for the new Volga, at high speed. The enterprise collective has responded to the call by Car'kiy workers to speed up the release of assembly components for the GAZ-3102. They plan to produce the first industrial lot by the day the 26th Party Congress opens. Original carburetor models with excellent reliability and fuel economy have already been sent to the banks of the Volga. One other feature of this unit is that it sharply reduces air pollution from vehicle exhausts. Similar carburetors are also being developed for the "Zaporozh'ye" and "Moskvich" cars and for trucks; they will be able to operate using either gasoline or natural gas. [Text] [Moscow SOTSIALISTICHESKAYA INDUSTRIYA in Russian 4 Sep 80 p 2] 11052

KAMAZ DIESELS--Naberezhnyye Chelny, Tatarskaya ASSR, 17 Sep 80 (PRAVDA correspondent R. Sabirov)--The 200,000th diesel motor produced by the Kama automotive giant has left the assembly line. The rate of motor production at the KamaZ is increasing day by day. Whereas it took three and a half years to produce the first 100,000 units, the second 100,000 was produced in little more than a year. [Text] [Moscow PRAVDA in Russian 18 Sep 80 p 2] 11052

KAMAZ FORGE SHOP--The new KamaZ forge shop, operating on a start-up and adjustment basis, is in production. We plan to produce upwards of 110,000 tons of forgings per year here. A second enterprise line is now being installed alongside existing shops at the automotive giant. [Excerpt] [Moscow SOVETSKAYA ROSSIYA in Russian 30 Sep 80 p 1] 11052

OKA BRIDGE AT KASIMOV--Ryazan'--The foundations have been laid for the first supports of the new Oka bridge near Kasimov. Putting this crossing into operation will enable through vehicular traffic to go to Kuybyshev, Volgograd and the Crimea without going through Moscow. This modern highway beginning at Muron - Kasimov and "flowing" into the area near the town of Shilovo on the smooth asphalt surface of the Moscow - Kuybyshev route also opens up opportunities for economic utilization of regions adjacent to the highway. [Text] [Moscow IZVESTIYA in Russian 25 Sep 80 p 6] 11052

SYNTHETIC FIBER ROADBED--Kalinin, 16 Sep (TASS)--Tourists driving to the sources of the Volga will not suspect that one sector of the road is made of synthetic textile. It is swampy in spots here. The peat bogs are a great hindrance to road builders. Where the road runs into it, one must dig out a layer of peat several meters thick with an excavator and fill in the spot with sand. Only then can the road proper be put down. There is no other way -- if the sand base for the road is laid directly onto the peat, it will squeeze out to the sides and the road will sag. Specialists at the "Kalininavtodor" administration decided to use a synthetic nonwoven material as the reinforcing (strengthening) interlayer. The peat bog was not taken out, but simply leveled, covered with a thin layer of sand, and a synthetic "lining" was rolled out over it. Then the following layers were put down -- sand, gravel, asphalt-concrete. Now the nonwoven material evenly distributes the pressure of the road fill on the peat, without squeezing it out: the road "sits" on it. The synthetic roadbed is a barrier to groundwater moving up. When laying the road, the builders decided to use this method in the most difficult places, which turned out to be five- to six-fold cheaper than peat-removal. And the "nonwoven roads" can be used to advantage on dry sectors as well. The sandy subjacent layer of a road is ordinarily up to half a meter thick and is then covered with gravel. The costs and shipment of this material are enormous. Let us remember that one cubic meter of gravel, including transport expenditures, costs roadbuilders 6-8 rubles. But if the synthetic material is put down between the sand and the gravel, the layer of sand can be approximately two-fold thinner and the gravel requirement can be reduced significantly. The synthetic nonwoven material is made from wastes. Scientists at the All-Union Scientific Research Institute of Synthetic Fibers who developed the technology for manufacturing it claim that its service life is unlimited. [Text] [Moscow PRAVDA in Russian 17 Sep 80 p 3] 11052

YAMZ-840 DIESELS--The Yaroslavl' Engine Plant has begun manufacturing the first industrial lot of the new YamZ-840 family of engines. They are intended for use on large BelAZ vehicles. The new motors have 500-650 hp and the expected time to initial major overhaul is 8,000 to 10,000 hours. Tests of dump trucks in which these motors were installed showed that their productivity is significantly higher, while fuel expenditure is simultaneously lower. [Text] [Alma-Ata AVTOMOBIL'NYY TRANSPORT KAZAKHSTANA in Russian No 9, 1980 p 27. COPYRIGHT: "Avtomobil'nyy Transport Kazakhstana", 1980] 11052

CSO: 1829

RAILROAD

RESULTS OF USING LONGER, HEAVIER TRAINS DISCUSSED

Moscow System

Moscow GUDOK in Russian 19 Aug 80 p 1

[Article: "There Are Reserves. They Must Be Used!"]

[Excerpt] The most valuable displays of labor initiative are approved and supported by the CPSU Central Committee. Among such valuable initiatives is that by Moscow railroad workers to accelerate freight shipment by increasing train weight and length. It has been in effect for a year and a half now. What has it given its initiators?

Even from just the viewpoint of increasing throughput capacity, it has given them quite a bit. Whereas average train weight increased in some places by 5-7 tons per year in recent years, it increased by 60 tons in 1979 as compared with the preceding year and has increased by 37 tons during the first seven months of this year as compared with the same period last year.

But that is not the most important thing. More important is the fact that, thanks to the use of large, long, heavily loaded unit trains, the total number of such trains has decreased, thus advancing the throughput capacity limits of the sectors.

Workers on the capital's mainline persistently and systematically continue this work they began. Since March, one super-heavy 8,000-10,000 ton train daily is dispatched from Rybnoye Station. Dozens of "six-thousanders" and other heavy consists move right on schedule. Moscow Railroad workers are confident that they will reach the goal they set of incorporating in the technological process of operating the mainline everything new born of the competition.

The initiative is valuable in repetition as well, because long, heavily-loaded trains are now emerging on other roads in the country following the Muscovites' lead. They are regularly scheduled as unit trains with Kuzbass coal from Novokuznetsk to Sverdlovsk and Nizhnyy Tagil. Long ore unit trains run from Krivoy Rog to the Donbass, as do coal trains from the Donbass to the Carpathians, from Vorkuta to Leningrad. And the increased throughput capacity of the roads provides an opportunity for shipping many tens of millions of tons of freight above the plan, nationwide, by the end of the five-year plan. On some roads, the results are very perceptible. They are more modest on others, but positive for the network as a whole: previously, the annual increment in average train weight was 17-19 tons, but this past year it increased to 26 tons.

Moscow-Ryazan' Depot

Moscow GUDOK in Russian 19 Aug 80 p 1

[Text] The honor of running the heavier "six-thousander" and "ten-thousander" trains fell the lot of the honored collective of Moscow-classification-Ryazan' Depot. They were "aces," of course, but now the number of long, heavily-loaded unit trains has increased significantly. Since the start of the year, locomotive brigades have run 6,790 heavy trains, shipping 5,944,802 tons of national economic freight above the norm on them, and we are reading new names among those entrusted with the right to drive the large trains.

Other Systems

Moscow GUDOK in Russian 19 Aug 80 p 2

[Editorial] In the first six months of this year, the average train weight assignment was not met by two tons (19 tons in July) by the rail network as a whole. This situation testifies to the fact that no importance is being attached to disseminating the Moscow rail workers' experience on certain roads. For this reason, the Gor'kiy road, for instance, failed to meet the plan for average train weight by 30 tons in the first half of the year (by 82 tons in July). The figures were 38 (46) tons for the South Urals road and 28 (47) tons for the Virgin Lands road, respectively. In July, only eight roads coped with the assignment.

The leaders of roads with an actual average train weight below the assigned level are inclined to explain it by the large flow of empty consists, but in fact the number of underweight, underlength unit trains remains very high, causing a reduction in average weight.

The letters from GUDOK readers cite quite a few facts which bear out that locomotives are not always operated with full loads. They explain this by the fact that the traffic schedule contains only calculated train weights and trip leg times, but those are often below the actual potential of the locomotives. The calculated norms should be adjusted ahead of time using experimental runs with dynamometer cars, as was done previously, when the haulage calculations were made by workers in the locomotive service, rather than by the traffic service, as is now the case. GUDOK has spoken out repeatedly about restoring the previous procedure for determining train weights (Nos 177 and 271 this past year), but the transport headquarters has not yet resolved this question.

Report From Irkutsk

Moscow GUDOK in Russian 19 Sep 80 p 2

[Article by Locomotive System Service deputy chief A. Baranenko: "Acquisitions and Losses"]

[Text] On our road, we are constantly seeking out reserves aimed at increasing the throughput and load capacity of our sectors. In the Bratsk Division, for example, many years of experience has been accumulated in driving electric VL60 locomotives in a system of many units to haul trains weighing 4,500 to 5,100 tons (up to 8,000

tons using double locomotives). The initiative by Moscow rail workers on running heavily loaded consists has forced us to look again at possibilities for disseminating this initiative to other sectors of the mainline.

We conducted long tests with trains exceeding the schedule norm by 1,000 tons on the most difficult sector, Baykal Pass. Unit trains weighing up to 5,000 tons were run. We were convinced that it could be done only given multiple traction on the entire road. The reliability of electric locomotive operation improved with multiple traction, but to do this we must either increase the amount of energy available to the pass sector or switch over from d.c. to a.c. overhead contact in order that the entire main drive can be served by locomotives of one series. Other steps must also be taken. Thus, ordinary trains of 3,700 tons are sent through at intervals of 7-10 minutes here, but the interval increases correspondingly for large trains, creating considerable difficulties in the car-flow throughput. Moreover, long unit trains do not fit onto station tracks. The sector also needs renovation of its signalization, centralization and block system, communications, track and car systems.

In a word, in order to begin running heavier trains on a large scale, much work will have to be done on the entire line, and foremost on its technical base. And these problems must be solved as part of a mandatory complex which includes freight shippers. So far, heavier unit trains are reaching the road only from the open pit coal mines and petrochemical enterprises of Angarsk. Unfortunately, however, it is hard to put together 4,700-ton bulk trains since it involves many expenditures. Still, the road is drawing up and sending 8-10 trains daily weighing over 4,000 tons to the Transbaykal Road and is accepting such unit trains from the west, enabling them to increase average freight train weight by 55-80 tons.

In the long term, modernizing the existing VL80 electric locomotive series can provide a substantial gain in increasing weight norms on entire lines. The reference is to equipping them with an independent, automatically regulated actuation circuit equalizing the load between traction engines operating in parallel. Jointly with workers from our road, the Omsk Institute of Rail Transport Engineers has modernized two VL80 electric locomotives. Comprehensive testing done on them on roads in Siberia, Kazakhstan and the Ukraine demonstrated the soundness of the circuit and the potential for increasing tractive force by 10-15 percent, which is especially important on the critical sectors, as well as when starting and accelerating trains. It costs about 4,000 rubles to modernize a single electric locomotive. Unfortunately, the locomotive main administration and All-Union Scientific Research Institute of Rail Transport have had nothing to say on this score for three years now. Electric locomotive builders have been bolder and have made this circuit part of the new VL84's, which are being supplied to the BAM, but which are not available for our roads, unfortunately.

Reserves for increasing load capacity must be sought not just in increasing train weight, but also in increasing traffic speeds, which requires no capital expenditures. In fact, we recall that at one time both we and the entire network competed to run locomotives for 1,000 km and 1,000 minutes of useful operation per day. Alas, this initiative was doomed to oblivion, for some reason, and runs did not increase, but continued to decrease. Of course, there are objective reasons, as always! But it would seem that, given intelligent traffic organization, locomotives can and must operate more efficiently. This will help us cope more successfully with the tasks being set rail workers by the party and government.

11052

CSO: 1829

RAILROAD

BRIEFS

RAIL ELECTRIFICATION--Electrification of the railroads continues at a fast tempo. By the end of the five-year plan, over 30 percent of the rail network in our country will be electrified. [Excerpt] [Moscow STROITEL'NAYA GAZETA in Russian 10 Aug 80 p 2] 11052

BAM PASSENGER TRAFFIC--Ust'-Kut, Irkutskaya Oblast--Passenger train traffic is now open on the Western Sector of the BAM from the Lena to Kunerma Station, the latter being in Irkutskaya Oblast at the 262-km mark, in the foothills of Baykal'skiy Ridge. Kunerma residents now have reliable communications with Ust'-Kut and from there, by rail and air, with the central regions. [Text] [Moscow TRUD in Russian 16 Sep 80 p 1] 11052

RAIL-LAYING AT BRATSKAYA GES--Bratsk, Irkutskaya Oblast--Those building the second track on the Tayshet - Lena line have begun laying track along the Bratskaya GES dam. Hero of Socialist Labor Viktor Lakamov's brigade is working ahead of schedule. The steel rails across the dam, more than 100 meters above the Angara, enable us to connect the open lines built on both banks of the river and to speed up installation of the entire line. [Excerpt] [Moscow SEL'SKAYA ZHIZN' in Russian 10 Aug 80 p 1] 11052

OCEAN AND RIVER

PLANS FOR DEVELOPING RIVER TRANSPORT

Moscow PLANOVoye KHOZYAYSTVO in Russian No 7, Jul 80 pp 94-98

[Article by N. Kozhevnikov, Senior Scientific Coworker and Ye. Makhlin, Director, IKTP [Institute of Complex Transport Problems] Sector under the USSR Gosplan: "Urgent Tasks in the Development of River Transport"]

[Excerpt] Along with railroad transport, which accounts for roughly two-thirds of all domestic freight turnover handled by general transport, an important place is occupied by river transport.

Our country is endowed with a high capacity network of inland navigable waterways whose overall extent is 143,000 km. In recent decades these waterways have been radically modernized by means of comprehensive hydrotechnical construction or waterway work. As a result, in a series of main direction deepwater ways have been created of considerable extent. The rivers Volga, Kama and Dnepr have been converted to major waterways (with guaranteed depths of 3.5-4.0 m). The same depths were ensured along the principal directions of river freightage: Cherepovets-Leningrad, Belomorsk-Leningrad, Volgograd-Rostov, and Moscow-Cherepovets. Navigation conditions on the major rivers in the Asian part of the country--the Irtysh, the Ob', the Yenisey, the Lena, and the Amur, have been markedly improved.

Recently new river ways have been established for navigation, assuring transport access to the newly created industrial regions. Thus, in the Ob'-Irtysh basin, chiefly in northern Tyumenskaya Oblast and in the middle reaches of the Ob', in connection with the development of petroleum and gas deposits, waterways with an overall length of 3,600 km have been made navigable in the last 15 years. In regions of economic development--in Eastern Siberia and the Far East--the overall extent of waterways in use has during the same period increased by nearly 10,000 km.

Large inter-basin canals have been built--the Belomorsk-Baltic Sea, the Moscow-Volga, the Volga-Don, and the Volga-Baltic Sea. These canals display high technical characteristics assuring the operation of more economical high-tonnage ships and barges. They were used as the basis to organize an integrated system of the principal deep waterways in the European part of the USSR. Thus also favorable preconditions were created for an effective change-over to river transportation of the huge interregional flows of coal, timber, ore, grain, and construction, petroleum, chemical, and other types of freight.

Broad possibilities also have been opened for freightage between river and sea ports in domestic and international traffic and by dual-purpose river-and-sea ships without transshipment in river-delta ports.

Complex problems of developing new more effective ships, improving the fleet, building highly mechanized ports, and raising the equipment level of river transport have been solved. In the last few five-year periods a large-scale program for the renovation and complementation of the transport fleet with the most up-to-date and economical pusher barges and tugs for barge trains of varying cargo capacity, freighters, tankers, passenger ships of varying degree of comfort and carrying capacity, and ships of the technical and auxiliary fleet, has been carried out.

During the Tenth Five-Year Plan period the complex development of river transport is continuing, especially as regards the deliveries of cargo vessels, mostly of the non-self-propelled kind with the object of streamlining the technology of cargo transportation in pusher-type barge trains, as well as deliveries of other ship types. Work continues to develop port facilities by creating new large transshipment complexes, chiefly in the river basins of Siberia and the Far East, as well as by equipping ports with gantry and floating cranes having hoisting capacities of up to 16-32 tons, specialized high-productivity machinery, loaders, etc.

Work also continues to expand port capacities in Osetrov, Lesosibirsk, Khabarovsk, Komsomol'sk, Sergina, Labytnangi, and Astrakhan', and to augment shiprepair enterprises. Inland waterways are being developed and improved. The filling of the reservoir of the Nizhnekamskaya Hydroelectric Power Station has commenced; this will assure a guaranteed water depth of 4 m on the most traffic-laden sector of the Kama from Solikamsk to its mouth. Upon the construction of the Konstantinovskiy Hydrotechnical Hub the depth of the Volga-Don waterway as far as the Port of Ust'-Donetsk will be increased to 4 m. This year the second line of locks of the Dneproges Hydroelectric Power Station imeni Lenin will be put into operation, thus making it possible to at least double freightage on the Lower Dnepr. This will be accomplished by chiefly switching from rail to river transportation shipments of coal, ore, grain, and building and other materials, which will serve to reduce by 3 million rubles annually their shipping costs. The Belomorsk-Baltic Canal is being modernized. In 1980 the construction of the second line of the Sheksinskiy locks will commence; upon its completion the volume of freightage on the Volga-Baltic Canal can be markedly increased. Steps are being taken to dredge and make the waterways in the nation's eastern regions more reliable.

Realizing the decisions of the 25th CPSU Congress, the workers of public river transport are working harder to satisfy the demand of the national economy for transport, especially on the rivers of Siberia and the Far East.

Practical problems of continuing navigation on rivers are being solved. To this end, the fleet is being complemented with stronger-hulled ships, which makes it even now possible to carry on freightage on the Volga, the Dnepr, and other rivers, in the early spring and late fall under ice conditions, with the aid of icebreakers and icebreaking facilities. For the first time in the history of navigation on the Dnepr, experimental freightage of more than 100,00 tons of iron ore concentrate from Komsomol'sk to the metallurgical plant in Dneprodzerzhinsk was accomplished over a sluiced sector of the river during the winter of 1978/1979. With the aid of ice-breakers, in 1979 and 1980, the navigation season on the Canal imeni Moscow, the Lower Volga, and other rivers, was opened much earlier than usual. The longer navigation season and the organization of year-round shipping on certain river sectors represent a major potential for the development of river transport.

Despite these accomplishments, the development of river transport lags behind the needs of the nation's economy. Its potential is not being fully exploited, and the

existing opportunities for increasing freightage are not being utilized. The target of the Five-Year Plan as regards cargo turnover is not being fulfilled, and the plans for increasing the productivity of most types of river fleet are not being carried out owing to, prolonged demurrage in ports and at wharves of enterprises and bases of ministries and departments, as well as to numerous empty runs and shortcomings in the organization of operations.

In certain regions, and primarily in Siberia and the North-East, river transport does not fully satisfy the demand for freightage owing to an insufficient expansion of transshipment facilities at the ports of the steamship companies and at enterprises and transshipment bases of the ministries and departments, as well as owing to the slow addition of new ships to the transport fleet. The Irtysh and West Siberian river steamship companies, for example, were unable to transport some 2 million tons of general cargo in 1980 for the enterprises and organizations of the petroleum and gas industry.

The potential of river transport for relieving the railroads carrying a high volume of freight traffic is poorly exploited. Analysis of interregional transport and economic connections has shown that about 100 million tons of various freight is carried on railroad lines parallel to waterway routes. Calculations by the IKTP (Institute of Complex Transport Problems) under the USSR Gosplan show that waterways are a highly promising means for the transportation of: grain, from the Volga regions, the Northern Caucasus, the Urals, Siberia, and Kazakhstan to regions of the Central, Northwestern, and Baltic parts of the USSR; petroleum and petroleum products, from the Urals, the Volga region, Northern Caucasus, and Kazakhstan to enterprises of the Central part of the USSR, the Volga region, and the Northwestern USSR; Kuznetsk and Karaganda coals dispatched to electric power stations in the central oblasts of the RSFSR, to the Northwest, and to the Ukraine; Olenegorsk and Kovdor iron ore, to the Cherepovets Metallurgical Plant, and Kremenchug iron ore to the plants of the Dnepr region; building materials from Karelia and Leningradskaya Oblast to enterprises and construction sites of the Central part of the USSR and the Volga region; Kola apatite concentrate, to the enterprises of the Northwest, the Urals, Northern Caucasus, and Transcaucasus; Northern and Siberian timber, to regions of the Volga, Northern Caucasus, Transcaucasus, and the Donets Basin. River transport is being inadequately utilized to carry export and import cargo, whose volume may increase during the next Five-Year Plan period.

It is also necessary to develop the use of river transport to carry cement from plants located near the waterways (Vol'sk, Zhigulev, Ul'yanovsk, Chernorechensk, etc.) as well as to carry containerized cargo and motor vehicles from the Gor'kiy, Volga, and Kama plants and vegetables and melon crops from the Volga region and Northern Caucasus.

The solution of these problems requires within the next few years accelerating the planned construction of mechanized piers together with their railroad access tracks, as well as the construction of high-capacity transloading facilities on the principal bulk cargo (especially coal, timber, and ore) routes. Further, the expansion of the river fleet should be combined with its improved utilization, along with improvements in transport technologies and raising the level of the organization of the transport process, especially as regards the interaction of river with rail transport.

The role of river transport in linking the industrial centers located on the trunk waterways should be strengthened. Most enterprises in such cities as Moscow, Leningrad, Volgograd, Saratov, Cheboksary, Kuybyshev, Gor'kiy, Yaroslavl' Rostov, Perm', Kiev, Zaporozh'ye, Dnepropetrovsk, Dneprodzerzhinsk, and others, do not exploit the potential of river transport, owing to their traditional preference for rail transport. Using the waterways as transportation links between these centers will reduce the demand for railroad rolling stock and motor vehicle fleet and eliminate the delays in transporting semifinished and finished products from enterprises to users, particularly during the summer period when the hauls of grain, vegetables, fruits, and melon crops increase, along with the sharp increase in passenger traffic. The volume of freight that can already within the next 5-7 years be switched from rail to river transport is roughly equal to the mean annual increase in freight turnover of the nation's entire railroad network during the last 4 years. It is worth noting here that it will then be possible to relieve such important rail routes as the egress lines from the Urals to the Northwest, the Volga region, the Central part of the USSR, and the Northern Caucasus; from the regions of the Northwest to the Central part of the USSR and the Volga region; from the Donbass to the southern, central, and northern regions of the Ukraine, etc.

The Ministry of Railroads as well as the RSFSR Ministry of River Transport and other river transport agencies of the Union republics are taking steps to streamline the utilization of waterways for the conveyance of cargoes. These problems also are handled by the Interdepartmental Commission for Streamlining Freight Transportation formed in 1970 under the USSR Gosplan.

Owing to these joint efforts in recent years it was possible to switch freight transportation in certain directions from rail to river transport. However, the situation has not changed radically. Combined rail-and-water transport traffic is growing slowly. Thus, the transshipment of dry freight from rail onto river transport increased by a factor of only 1.3 times between 1970 and 1979 (while the conveyance of that freight by river transport increased by a factor of 1.8), chiefly owing to the sharp increase in the volume of transshipments in the Siberian ports, whereas in many ports in the European USSR the volume of such transshipments in recent years has either remained unchanged or even diminished. The volume of the transshipments of Pechora coal at the Kotlass Port and of the Kola iron ore for the Cherepovets Metallurgical Plant at Kandalaksha has remained at the same level for many years. The transshipments of Northern timber at the Port of Gor'kiy decreased, while the transshipments of Siberian and Ural timber at the ports on the Kama in 1979 were small in volume--126,000 tons out of the 8 million tons carried by rail on routes parallel to the waterways.

Upon the transfer in 1956 of the jurisdiction over river transport to the Union republics, the tendency to use it chiefly to carry local cargoes, mostly building materials, began to develop. Interregional cargo traffic increased less than threefold in volume during 20 years, while the volume of traffic in building materials increased more than sixfold.

At present building materials account for about 78 percent of the total volume of dry cargo carried, as compared with 64 percent in 1960, and this proportion continues to increase, while the proportion of other important bulk cargo types--coal, timber, ore, chemical and mineral fertilizers--is consistently decreasing and the volume of general cargo traffic is insignificant, especially on rivers in

the European USSR. The causes of this situation are several: insufficient development of the capacities of river ports, railroad access tracks and stations, and piers of industrial enterprises, as well as the lack of special-purpose ships for the transportation of certain types of cargo (cement, motor vehicles, containers, etc.). A major reason also is the fact that the railroads and steamship companies participating in combined rail-and-river traffic often do not deliver freight on schedule, so that consigners and consignees avoid using the services of river transport.

The predominant growth in the volume of freightage of building materials is largely associated with the interest of river transport organizations in this type of cargo, since it does not require considerable expenditures of labor, material and financial resources and assures high indicators of equipment utilization and improved economic indicators of freightage.

Another restricting effect on the development of mixed rail-and-river transportation is the fact that the railroads bear no responsibility for the conveyance of freight from river ports in such cases. Not infrequently, rolling stock for the conveyance of ore, coal, and timber in combined river-and-rail transport is supplied to the river ports on low-priority terms. There also exist instances of underfulfillment of plan-set orders for freight transportation by the ministries and departments. As a result, at most ports the transportation of transhipped cargo by rail during the navigation season is not systematically ensured.

To improve the interaction between rail and river transport, regulations governing the planning of combined rail-and-river transport have been introduced. They specify that targets as to the volume of the transshipment of freight from rail onto river transport and from river onto rail transport are approved by the Ministry of Railroads and the RSFSR Ministry of River Transport in consultation with the USSR Gosplan. So far these regulations have not produced the desired results. In our opinion, it is necessary to improve the interaction of rail and river transport through a better coordination of activities and an increase in their mutual responsibility for the on-schedule provision of rolling stock and vessels and hence also for shipping freight by destination and on schedule.

The time is ripe to revive the earlier procedure for specifying targets for combined rail-and-river transport in the state plan. Along with the introduction of a system of incentives for the on-schedule delivery to and removal of freight from the river ports, this procedure will assure a broad participation of river transport in the deliveries of freight currently carried by the railroads alone over vast distances. Equal interest should be displayed by river-side enterprises of the ministries and departments in utilizing the waterways to carry their shipments, since during the summer peak season the in and out shipments of raw materials, fuel, other materials, and finished products often are late owing to shortages of railroad rolling stock.

It is hardly normal that certain newly built metallurgical, chemical, machine-building, and other enterprises in the neighborhood of rivers, and particularly of the Volga, the Kama, the Dnepr, and the Oka, lack wharves and rely exclusively on railroad or expensive motor transport without exploiting the advantages of river transport.

It is expedient for the ministries and departments operating enterprises located in the neighborhood of the waterways to determine, in consultation with the local

river transport agencies, the program and schedule for building wharves for these enterprises or utilizing public ports and wharves for the loading and dispatching of shipments by river transport in cases in which this is economically worthwhile. An active role in this important matter should be played by the commissions for the coordination of the performance of various types of transport, formed under the oblast executive committees in 1978.

Special attention and broad support is deserved by a Leningrad project to explore the possibilities for transferring the conveyance of up to 10 million tons of various freight onto river transport.

Switching a large volume of freight traffic from rail onto river transport requires additional expenditures, chiefly on fleet construction, port expansion, and the development of transshipment facilities. An important problem is the acceleration of the work being done at the RSFSR Ministry of River Fleet to plan and design the construction of high-capacity facilities for the rail-to-water transloading of black coal and timber from the Eastern USSR at the Port of Kambarsk, so that that port would become a major hub for the conveyance of these cargoes on the deep-water routes of the European USSR. At the same time, it is necessary to solve problems associated with the expedited construction of special-purpose facilities for the unloading of coal.

It is necessary to expedite the construction and equipping of wharves at the ports of the Ob'-Irtysh Basin, especially at Sergina, Labytnangi and Urengoy, so as to fully satisfy the demand for cargo transport in view of the insufficient transport capacity of the Tobol'sk-Surgut Railroad and the completion of the construction of the Surgut-Urengoy sector. It is also necessary to solve such an important problem as the construction of container terminals to expand the conveyance of general cargo.

The Ministry of the Shipbuilding Industry, the RSFSR Ministry of the River Fleet, and the Main Administration of the River Fleet under the UkrSSR Council of Ministers should explore the possibilities for expediting the construction of river vessels, and chiefly of units for high-tonnage pusher-type barge trains for which the freightage cost is 15-20 percent lower than for freighters. At present such barge trains handle only about 10 percent of the volume of river freightage. Doubling the volume of cargo carried by high-capacity barge trains would make it possible to save annually about 10 million rubles in current expenditures, and to save a large amount of fuel as well.

The enterprises of the Ministry of the Shipbuilding Industry and of the river transport of the Union republics are building an insufficient number of vessels, especially barge-train units. In the first four years of the 10th Five-Year Plan period deliveries of non-selfpropelled vessels to the river steamship companies fell short of the goal by more than 100,000 tons of carrying capacity. The enterprises of the shipbuilding industry are slow to prepare the series production of pusher-tugs of up to 3,000 HP. The slow pace of the complementation of non-self-propelled dry-cargo barge-train units affects adversely the ratio between the tonnage and the capacity of the dry-cargo fleet. According to the Ukrgiiprechtrans [Ukrainian State Institute for the Design and Planning of River Transport], in 1970 there were 3.63 tons of carrying capacity for every horsepower unit at the Dnepr river fleet, whereas in 1977 this ratio fell to 2.94 tons per HP. On the river

transport of the RSFSR this ratio also is deteriorating, so that it consistently underfulfills its targets for reducing freightage cost. Owing to shortages of non-selfpropelled barges, an inefficient system of assigning pusher-tugs to barge trains is widely practiced.

It is an urgent task to expedite the construction of high-capacity barge train units, to build special-purpose vessels for the conveyance of loose cargo, and to further improve the design of couplings so as to completely exclude manual labor during the formation of barge trains.

A major and important problem which must be solved during the final year of the 10th Five-Year period and during the 11th Five-Year Plan period is the construction of mechanized wharves for the loading and unloading of water-borne shipments at river-side enterprises. Much remains to be done by the Ministry of Petroleum and Gas Industry in West Siberia to build mechanized wharves at main supply bases, and by the USSR Ministry of Power and Electrification to construct wharf facilities for the reception of up to 8-9 million tons of fuel at among other places, heat and power stations in Dzerzhinsk, Balakovo, Volgograd, Konakov, and elsewhere. The USSR Ministry of Ferrous Metallurgy should expedite the solution of the problems associated with the construction of wharves and a conveyor line at the Cherepovets Metallurgical Plant for the reception of up to 2.5-3.0 million tons of iron ore and Belorucheyak limestone, as well as the construction of wharves at metallurgical plants in the Dnepr region for the reception of up to 5 million tons of iron ore from the Kremenchug Mining and Concentrating Combine, whose shipments via the Dnepr River can be assured on a year-round basis.

The USSR Ministry of the Building Materials Industry, the USSR Ministry of Construction and the USSR Gosnab should accelerate the work to modernize and build wharves at the Vol'sk, Zhigulev, Sengilevka, Voskresensk, and Chernorechensk cement plants so as to assure the conveyance of up to 3.5-4.0 million tons of cement by river transport, as well as to build elevators for the storage of that commodity at Gor'kiy, Kalinin, Yaroslavl' and Moscow.

It is necessary to modernize and build wharves at enterprises of the USSR Ministry of Nonferrous Metallurgy, the USSR Ministry of Procurements, and the USSR Ministry of Chemical Industry, and various other ministries and departments.

A great deal of work must be accomplished to provide normal navigation conditions for certain small rivers, particularly in the regions of Western Siberia, such as the upper reaches of the Taz, the Pim, the Agan, the Northern Sos'va, the Vasyugan, the Kazym, and others, which are of major importance to assuring cargo shipments to the hinterlands. The situation at present is such that the river transport agencies do not display due interest in developing small rivers, since their operation adversely affects technical and economic indicators. And yet an intensive utilization of small rivers for transport purposes produces substantial advantages owing to, among other things, fuel savings. Even according to averaged statistics the transportation of one ton of cargo on river vessels over a distance of 100 km consumes roughly only one-thirteenth as much fuel as does transportation via motor vehicles. Where good roads are absent, this difference can be even greater.

Special attention is deserved by the question of improving the organizational structure of the management of river transport. More than 80 percent of shipments

are handled by river transport in accordance with orders, plans, and contracts for organizations and enterprises of ministries and departments with Union jurisdiction. At present, river transport is administered by the RSFSR Ministry of the River Fleet and by corresponding agencies in the other Union republics. The lack of coordination of river transport affects very adversely the conduct of a unified technical policy for developing the fleet, ports, the waterways, providing vessels and other facilities, etc., and it causes administrative duplication. It is time to consider and resolve the question of setting up a unified agency for administering river transport.

A rational utilization of the inland waterways and their coordination with other types of transportation, especially rail, can assure a marked rise in the level and quality of performance of the nation's transport system.

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1186

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MISCELLANEOUS

AIRCRAFT, SHIPS USED IN ANTARCTIC EXPEDITION

Moscow VOZDUSHNYY TRANSPORT in Russian 23 Oct 80 p 3

[O. Kalintsev, V. Isayev interview with flight commander: "Aircraft Strike Out for the Icy Shores"]

[Text] A final meeting of the collective of the flight detachment of the 26th Soviet Antarctic Expedition (SAE) was being held in the Central Civil Aviation Administration. In a few days the flyers will set off from Leningrad and Odessa for the icy shores on the ships of the 26th SAE.

Our companion is a unique kind of record breaker. He is setting off for the shores of the sixth continent...for the 10th time. Viktor Ivanovich Golovanov is the commander of the flight detachment of the 26th SAE. The first question we put to him concerned the history of flyers' participation in the work of our scientists on the ice continent.

[Answer] The First SAE began work on 5 January 1956. Its flight group was headed by the well-known pilot I. Cherevichnyy, hero of the Soviet Union. Both he himself and the flyers in his group had a great deal of experience of work in the Arctic. But Antarctica was strange and unknown to them: strong winds, blizzards, cracks in the ice and flights over the icy wilderness without any landmarks. The pilots overcame all the "surprises" which the sixth continent had prepared for them. The Mi-4 helicopter commanded by I. Inozemtsev was the first to take off for Antarctic skies from the deck of the "Ob'."

[Question] What assignments has the flight detachment of the 26th SAE been given?

[Answer] The detachment is divided into three groups. The first, which consists of three crews in two Il-14's and is based on the "Mirnyy," will support the work of the intracontinental "Vostok" station. This group has difficult conditions. It is sufficient to say that "Vostok" is the world's cold pole.

The second group will be based at the "Druzhnaya-2" station on the shores of the Weddell Sea. This is a new station and is still only being rendered habitable. Work has to be carried out in a new region where our pilots have not flown before. Two Il-14's, three Mi-8's and two An-2's will be brought here.

The third group consisting of two Mi-8 crews will be based on board the "Mikhail Somov" scientific research ship. Its job is to support the "Molodezhnaya," "Mirnyy" and "Leningradskaya" shore stations and the "Russkaya" station, which will be opened this year.

There will be numerous flights to back up scientific research and sled-tractor trains and for ice exploration and ship guidance and transport flights between the stations.

[Question] What is the composition of the 26th SAE's flight detachment?

[Answer] We will have four Il-14 crews, two An-2 crews and five Mi-8 crews. Together with the technicians, more than 120 persons altogether. The very best have been selected for the detachment. A. Morgunov, deputy commander for flight training, has great experience--he is going to the Antarctic for the sixth time. Senior Navigator V. Latashev (going for the fifth time), V. Netesa, deputy commander for political education work, and Senior Engineer A. Shatava have given an excellent account of themselves.

[Question] How have the preparations for the expedition gone?

[Answer] All that is behind us--the drills and practice sessions. The technical equipment is all in order. The pilots, engineers and aircraft technicians have been supplied with special clothing for work in the Antarctic. Even though it is spring there, the frosts crackle, and winds of hurricane force are frequent. The Mi-8 helicopter crews trained under high-altitude conditions. And although the mountains of Antarctica cannot be compared with those of the Caucasus, where the training was conducted, the flyers acquired sound skills. Our colleagues from the North Caucasus Civil Aviation Administration gave us great assistance. The Mi-8 crews which will be based on the "Mikhail Somov" scientific-expedition ship, "rehearsed" flights from its platform on the open sea.

Flying practice was preceded by training in the Bykovskoye Training Subdivision. The flyers studied meteorology, air navigation, aerodynamics and the engines and equipment of the aircraft and helicopters.

[Question] What will be the route of the passage to the Antarctic?

[Answer] The members of the detachment will set off for the ice continent on several ships. The "Bashkiriya" motorship, which will carry the bulk of the aviation detachment, will set out from Odessa on 24 October. It is the customary route for the majority of us. And the stops are familiar--the Canaries and Montevideo. There will, naturally, be short tours during the stops. We will be followed from Leningrad by the ships carrying the aviation equipment and the crews: the "Kapitan Markov," "Mikhail Somov," "Pioner Onegi" and "Professor Vize." The crossing will take about 45 days.

[Question] And in what will the flyers be occupied en route?

[Answer] Primarily it will be necessary to constantly keep an eye on the equipment--the aircraft and helicopters. Corrosion rapidly sets in owing to seawater and mist. We will have to wash all the units and components with fresh water and replace the lubricants. Theoretical studies in accordance with a special plan will be conducted

on the motorships. Every day will bring us closer to Antarctica, and, of course, it will be essential to additionally study the areas of operations, flight routes and instructions for operating aviation equipment under ice conditions. Party-political studies will be headed by the flight detachment's deputy commander for political education work. He will organize seminars and lectures. As always, we will also hold sports events--checkers and chess and heavy athletics and table tennis competitions. The participants in amateur artistic activity will prepare for their performances.

The meeting with Neptune--the traditional celebration of sailors of all countries--will take place as we cross the Equator.

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